symptoms being weakness, diarrhea, and anorexia. There were tenderness and gurgling over the right iliac fossa, splenic enlargement, rose spots, and pyrexia, which ranged between 103.1° and 104°. He became more and more apathetic and drowsy and lost control of the sphincters. Lysis began on Oct. 25, and on Oct. 30 the temperature was normal. On Oct. 22 the left limbs remained in any position they were placed, though on the right side there was jactitation. Some days later the left leg and arm were paralyzed, the only muscles which acted were the flexors and adductors of the thigh and leg. Thus the thigh could be adducted and the knee slightly flexed, but the original position could not be regained voluntarily. The patellar reflex on the left side was exaggerated. Sensibility—tactile and thermic—was unimpaired. The left naso-labial furrow was obliterated, the left angle of the mouth was on a lower level than the right, and the left ala nasi was motionless. But the muscles innervated by the temporofacial division were unaffected. There was no marked muscular atrophy. The association of paralysis of the lower branches of the facial nerve with hemiplegia, the exaggerated reflexes, and the absence of atrophy were practically conclusive of cerebral affection. The patient, who had previously been intelligent, had fits of ceaseless laughter, could not solve correctly the simplest arithmetical problem, and appeared silly and demented.

JELLIFFE.

INFLUENCE OF TYPHOID FEVER ON THE NERVOUS SYSTEM. C. C. Hersman (N. Y. Med. Journal, March 26, 1904).

The poison of typhoid fever attacks the nervous system first, as evidenced by the prodromal aches and pains, that of the head being severest, sometimes uncontrollably so. The optic nerve is usually quite sensitive, photophobia being a frequent symptom. The cardiac ganglion and nerve supply of the heart is frequently affected by the poison. The psychoses are the initial delirium, which may be an early symptom, the febrile delirium which comes in the second or third week, which amounts to a confused condition of the mind, a melancholia, or a violent motor excitement, the low, muttering delirium so common in fatal typhoid. Convalescence may be disturbed by a delirium which is due to the exhausted condition. Mania and melancholia are often seen in the inherited, neurotic type. Meningitis is a grave complication. In a case of the writer's, headache, symptoms of meningitis and a paralysis of the left side were the pathological sequence. The prognosis of typhoid meningitis is 80 per cent. mortality. Among the neuroses are epilepsy, hysteria, tabes, multiple sclerosis, typhoid spine, and, more rarely, infantile spinal paralysis, paralysis agitans, myotonia, chorea, tetany, and various types of anesthesia, hyperesthesia, neuralgia, besides trophic and vasomotor neuroses. Insanity is far from common, and is not hopeless if the heredity is good.

W. B. NOYES.

THE PUPIL AFTER DEATH. A. Placzek (Virchow's Archiv, Vol. 173, No. 1).

The development of rigor mortis follows a certain definite law. Three to six hours after death it affects the neck muscles and then descends to the trunk, arms and legs. After three to four days it disappears in the same order. The heart is involved somewhat earlier than the other muscles. Observations on smooth muscle-fibers are very scant, so that Placzek made a systematic study of the size of the pupils at various times after death to ascertain if the muscles of the iris follow the general law. Cats were selected, since their prominent iris permits of very accurate measurement. In the first two hours after death the pupils begin to contract; this goes on until, after six to twenty-four hours, only a narrow slit remains. After twenty-four to forty-eight hours relaxation is again complete and no further excursions are then noticed. There may be individual variations; thus the process need not be synchronous on both eyes of the same animal; the secondary dilatation may be interrupted for a short time by a secondary contraction or the secondary dilatation need not occur at all. The pupil varies much in shape when completely contracted; it frequently is very irregular in outline. In man, rigor mortis of the iris begins in the second half of the day of death or the first half of the following day, hence is independent of the contractions of the skeletal muscles. Differences on both eyes are also observed very frequently. To explain the contraction, it must be assumed that the tonus of the dilator pupillæ is lost much sooner than that of the constrictor pupillæ. The author then examined a number of pupils that were altered in size by drugs shortly before death. Eserin injected subcutaneously was followed by myosis; shortly before death the pupils dilated and after death behaved as stated above. Applied locally, there was contraction, followed by maximum dilatation in the death agony; the post-mortal changes were the same as before. Exactly the same phenomena were observed after morphine injections and after division of the sympathetic nerve. The post-mortal variations in size were not affected by mydriatics instilled before death. The pupils did not dilate until just before death, and then contracted and dilated as before. When a drug which acts directly upon the muscles of the iris (adrenalin) was employed, the dilation persisted much longer after death and was followed by only a slight contraction. JELLIFFE

DIAGNOSTIC VALUE OF THE PLANTAR REFLEX. Stanley Barnes (Review of Neurology and Psychiatry, May, 1904).

From an examination of the Babinski sign in 2,500 patients Barnes contributes an important study. Particular attention has been paid to the methods of examination, and he prefers to speak of extensor and flexor reflexes, the former representing the true Babinski type. His conclusions are as follows: (1) In adults, an extensor response (Babinski's sign) never occurs in health; it is always indicative of organic disease. The pyramidal system need not be so injured as to show post-mortem lesions. An extensor response may be produced in any condition which greatly raises intracranial pressure, even if that condition does not cause a demonstrable lesion of the pyramidal system. For instance, an extensor response may occur in hydrocephalus, meningitis, cerebral tumor, etc.; in such cases the extensor response usually occurs in comatose or semicomatose states. An extenor response also occurs in convulsive conditions of organic origin, e. g., in epilepsy, uremia, infantile convulsions, strychnine poisoning, etc. An extensor response never occurs in hysteria and allied conditions unless some organic disease is also present. (2) A flexor response is the normal plantar reflex of the adult; it may also occur in pyramidal disease: (*a*) in acute conditions if only a small amount of the pyramidal influx is removed by an organic cause; or (*b*) in chronic cases, even when a large amount of the pyramidal influx is removed. (3) Under certain conditions it is sometimes possible to obtain in the extended position of a patient an extensor response, and in another position (Collier's) a flexor response from the same foot; this may be termed the position of pyramidal equilibrium. (4) The position of pyramidal equilibrium is lower in the scale of pyramidal disease in recent and acute cases than in cases where the disease is of long standing or very chronic origin. (5) There is a constant tendency in the adult for an extensor response to give way to a flexor response; the more chronic the case and the less severe the pyramidal lesion the more rapidly will a flexor response be reëstablished, even though the limb remain severely paralyzed and contractured. (6) The infantile response of children under the age of two years is dependent upon the immaturity of the pyramidal tracts; it resembles the response of pyra-